



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D5155-045
Job Sheet 165846



Part No: D5155-045

Job Qty: 1 ea

Part Name: Co-Pilot Collective Head Assembly (Eagle Single)



S000257

Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 9/30/17

Job Tracking No:

Due Date: 10/31/17

Created By: Mario Poulin

Type: Stock

Description:

Note: DWG REV B IPP REV:A 15.05.07 NEW ISSUE DD VERF:JLM IPP REV:B 15.07.02 AS PER DWG REV.B DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Due Date	Standard		Workcenter/Supplier	
				Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time
90	Start up Operation	1 Ea	10/31/17	0.00	0.00	Start up container	
110	Large Fab	1 pcs	10/31/17	0.00	0.00	Large Fab 2	
120	QC	1 pcs	10/31/17	0.00	0.00	QC9	
130	QC	1 pcs	10/31/17	0.00	0.00	QC5	
140	Outsource	1 pcs	10/31/17	0.00	0.00	Outsource4	① SP
150	Packaging	1 pcs	10/31/17	0.00	0.00	Packaging2	SP
160	QC	1 pcs	10/31/17	0.00	0.00	QC6	
170	Small Fab	1 pcs	10/31/17	0.00	0.00	Small Fab	M/L DAS
180	QC	1 pcs	10/31/17	0.00	0.00	QC5	38
190	Packaging	1 pcs	10/31/17	0.00	0.00	Packaging3	S/L 9-88 ST-373
200	QC21-SA	1 Ea	10/31/17	0.00	0.00	QC21	S DAS

Part Op 110 - WELD D4410-7 to D5155-5 AS PER DWG

Descriptions: 140 - Issue P/O to ATG: _____ Black Anodize as per Dwg D5155 C OF C REQUIRED

150 - C OF C REQUIRED

170 - RE-PASS HELICOIL TAP IN THREADS AND INSTALL HELI-COIL ASSEMBLY AS PER DWG,

21
9-88 NOV 06 2017

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D4410-7	1	5	0	0
	D5155-5	1	2	0	0
170-Small Fab	0290296A108 FM 136548	11	84	0	0
	375 D5155-9 FM 1435015	1	10	0	0
	375 D5156-9 FM 145274	1	13	0	0
	316 MS16562-223 FM 135536	2	25	0	0
	316 MS24693-24B FM 134676-2	7	0	0	0

Part Specifications

Specifications could not be found.

DART
AEROSPACE
S004319

Dart Aerospace Ltd.

1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com



Co – Pilot Collective Head Assembly (Eagle Single)

PART NO: D5155 – 045

Revision:

Operation: Outsource

Quantity: 1

Change No:

Mfg Date: 10/31/17

Job No: 165846

Work Order ID 165846

Thursday, August 31, 2017 10:32:42 AM

Page 1

Item ID: D5155-045

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Co-Pilot Collective Head Assembly (Eagle Single)

Start Date: 8/31/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/14/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D5155	B

110 Weld per dwg A/R Aluminum rod Batch: **137078** 0.00***110***

Large Fab Memo 0.10

Large Fab WELD D4410-7 to D5155-5 AS PER DWG

1 SEP 05 2017 **DAS 24 9-89**

120 QC9- Inspect visual per QSI004- Fusion Welds 0.00

120

QC Memo 0.01

Quality Control

D 17-09-13 **DAS 9 9-89**

130 QC5- Inspect part completeness to step on W/O 0.00

130

QC Memo 0.01

Quality Control

D 17-09-13 **DAS 9 9-89**

Thursday, August 31, 2017 10:32:42 AM

165846

Page 2

N900040100

Setup Start *NS1*

Stop *NS2*

Stop *NS2*

Start Date: 8/31/2017 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 9/14/2017 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Outsource process-Anodize per QSI017 4.1.10.1	0.00							
140									
Outsource4	Memo	72.00							
Outsource process - Anodize	Issue P/O to ATG: 37769 Black Anodize as per Dwg D5155 C OF C REQUIRED								SEP 15 2017
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.01							
Packaging	C OF C REQUIRED								
160	QC6- All purchased or subcontracted products	0.00							
160									
QC	Memo	0.01							
Quality Control									DAS 38 NOV 01 2017

165846

Thursday, August 31, 2017 10:32:42 AM

N900040100

Stop *NS2*

Reference:

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

[illegible]

165846

Thursday, August 31, 2017 10:32:42 AM

Accept

N900040100

Setup Start *NIS1*

Stop *NS2*

Item Name: Co-Pilot Collective Head Assembly (Eagle Single)

Start Date: 8/31/2017 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 9/14/2017 Req'd Qty: 1.00 * 1 *

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center ID

Operation Description

Set Up/ Run Hours

Tool ID**Tool #****Plan
Code**

**Accept
Qty**

Reject
QtyReject
Number

**Insp.
Stamp**

200

QC21- Final Inspection - Work Order Release

0.00

200

QC

Memo

0.10

Quality Control

Picklist Print

Thursday, August 31, 2017 10:32:38 AM

Page 1

Work Order ID: 165846

165846

Parent Item: D5155-045

D5155-045

Parent Item Name: Co-Pilot Collective Head Assembly (Eagle Single)

Start Date: 8/31/2017

Required Date: 9/14/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 15.05.07 NEW ISSUE DD VERF:JLM IPP
REV:B 15.07.02 AS PER DWG REV.B DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4410-7 *D4410-7* Conduit		Manufactured	No			110	Each	8.0000	1	1			DAS 24 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				WA001				8					
				146092				4					
				156513				4					
D5155-5 *D5155-5* Co-Pilot Collective Head (Eagle Single)		Manufactured	No			110	Each	3.0000	1	1			DAS 24 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				WA01				3					
				139502				3					
D5155-9 *D5155-9* Co-Pilot Collective Head (205)		Manufactured	No			170	Each	10.0000	1	1			
				<u>Location</u>				<u>Loc Qty</u>					
				ST375				10					
				139513				5					
				145674				5					
D5156-9 *D5156-9* Back Plate		Manufactured	No			170	Each	13.0000	1	1			
				<u>Location</u>				<u>Loc Qty</u>					
				ST375				13					
				143501				13					

Picklist Print

Thursday, August 31, 2017 10:32:39 AM

Page 2

Work Order ID: 165846

165846

Parent Item: D5155-045

D5155-045

Parent Item Name: Co-Pilot Collective Head Assembly (Eagle Single)

Start Date: 8/31/2017

Required Date: 9/14/2017

Start Qty: 1.00

Required Qty: 1.00

90296A108

Purchased

No

170

Each

102.0000

11

11

90296A108

Heli-Coil Insert

**

Location

Loc Qty

Loc Code

GA

102

m132757

10

m136548

85

m136747

7

MS16562-223

Purchased

No

170

Each

31.0000

2

2

MS16562-223

Spring Pin

**

Location

Loc Qty

Loc Code

ST316

31

m134574

6

m135536

25

MS24693-24B

Purchased

No

170

Each

76.0000

7

7

MS24693-24B

Screw

**

Location

Loc Qty

Loc Code

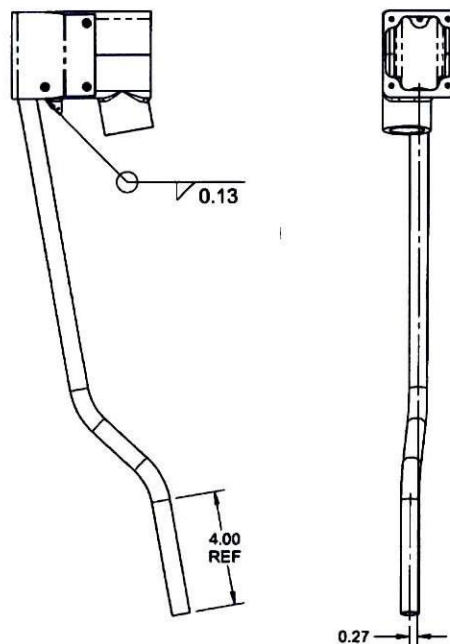
ST288

76

m134676

76

ITEM	QTY	P/N	DESCRIPTION
1	X	D5155-041	CO-PILOT COLLECTIVE HEAD ASSEMBLY (205)
2	1	D4410-7	CONDUIT
3	1	D5155-1	CO-PILOT COLLECTIVE HEAD (205)
4	1	D5155-9	CO-PILOT COLLECTIVE HEAD (205)
5	1	D5156-9	BACK PLATE
6	11	90296A108	HELI-COIL INSERT (8-32 X 0.276)
7	2	MS16562-223	SLOTTED SPRING PIN
8	7	MS24693-24B	SCREW, CSK 100*

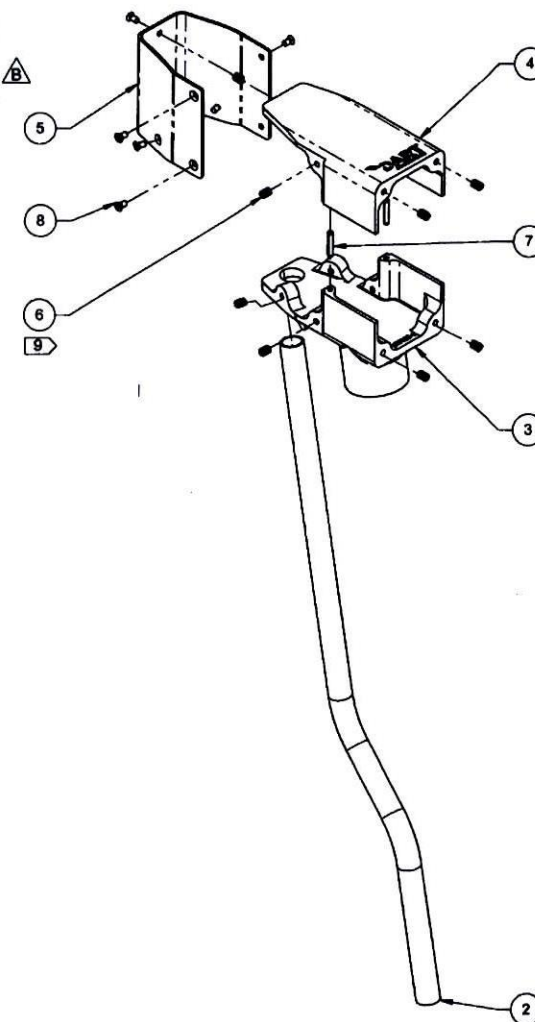


D5155-041 WELDING DETAIL

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER WELDING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 1.08 lbs
- 8) WELD PER DART QSI 004
- 9) INSTALL AFTER ANODIZING

D5155-041 CO-PILOT COLLECTIVE HEAD ASSEMBLY (205)



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165846*

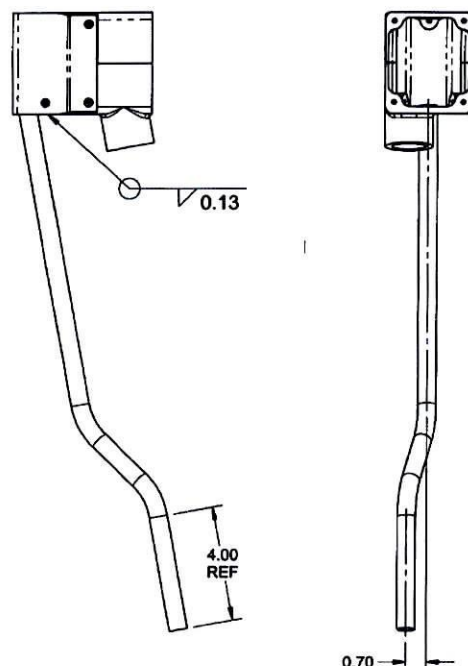
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A.P. 2015 JUL 02 Rev 15-577

B	REVISE DIM: ZN D3-7, REVISE NOTE 2: ZN A8-13, A8-14, REVISE LENGTH OF PIN: ZN D6-1, D6-2, D5-3, D6-4, REVISE DEPTH: ZN C7-5, C7-7, C7-9, C7-11, C5-13, C4-14, REVISE DIM: ZN C7-5, C7-7, C7-9, C8-11, B7-13, B7-14, B2-5, B2-7, B2-9, B2-11, C5-13, C4-14, D8-6, D8-8, D8-10, D5-6, D5-8, D5-10, D5-12, B8-7, D7-12, C7-5, C7-7, C7-9, C8-11, D2-13, D2-14	VS	15.05.21
A	NEW ISSUE	VS	14.09.10
REV.	DESCRIPTION	BY	DATE
DESIGN	VS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VS		
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	JFS	D5155	SHEET 1 OF 14
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CO-PILOT COLLECTIVE HEAD	NTS
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APPROVED

ITEM	QTY	P/N	DESCRIPTION
1	X	D5155-043	CO-PILOT COLLECTIVE HEAD ASSEMBLY (212)
2	1	D4410-7	CONDUIT
3	1	D5155-3	CO-PILOT COLLECTIVE HEAD (212)
4	1	D5155-11	CO-PILOT COLLECTIVE HEAD (212)
5	1	D5155-11	BACK PLATE
6	11	90296A108	HELI-COIL INSERT (6-32 X 0.276)
7	2	MS16562-223	SLOTTED SPRING PIN
8	7	MS24693-24B	SCREW, CSK 100*

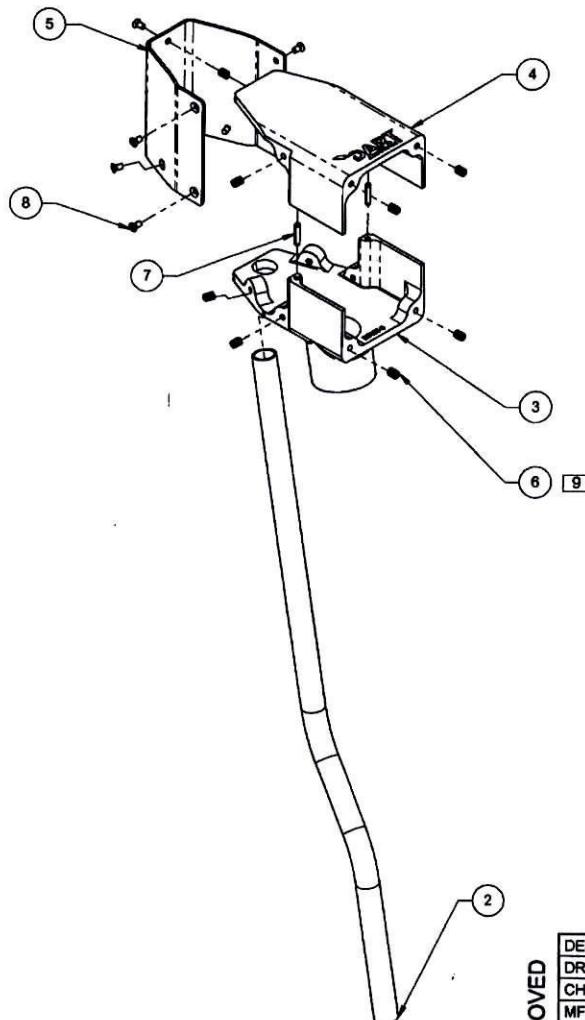


D5155-043 WELDING DETAIL

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER WELDING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 1.20 lbs
- 8) WELD PER DART QSI 004
- 9) INSTALL AFTER ANODIZING

D5155-043 CO-PILOT COLLECTIVE HEAD ASSY (212)

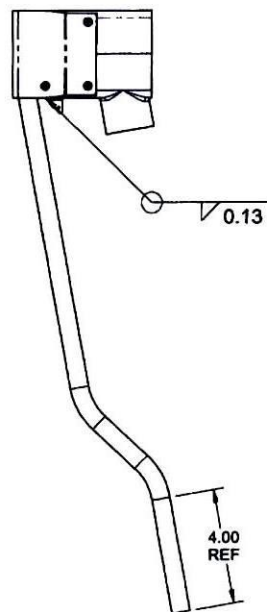


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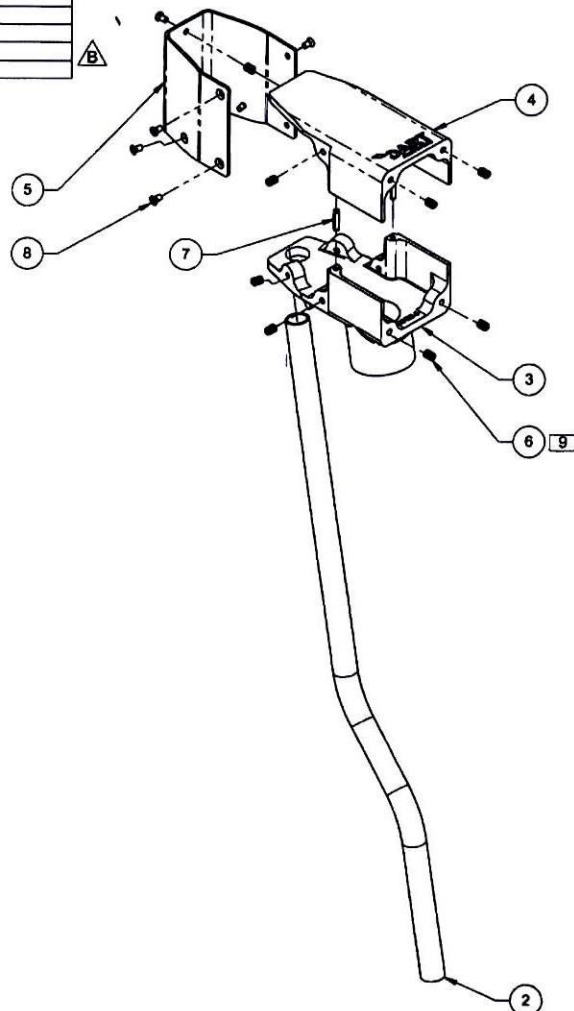
A.R. 2015 JUL 02

APPROVED	DESIGN	VS	DART AEROSPACE LTD	
	DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
	CHECKED	RF	DRAWING NO.	REV. B
	MFG. APPR.	JFS	D5155	SHEET 2 OF 14
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	CO-PILOT COLLECTIVE HEAD	NTS
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ITEM	QTY	P/N	DESCRIPTION
1	X	D5155-045	CO-PILOT COLLECTIVE HEAD ASSEMBLY (EAGLE SINGLE)
2	1	D4410-7	CONDUIT
3	1	D5155-5	CO-PILOT COLLECTIVE HEAD (EAGLE SINGLE)
4	1	D5155-9	CO-PILOT COLLECTIVE HEAD (205)
5	1	D5158-9	BACK PLATE
6	11	90286A108	HELI-COIL INSERT (6-32 X 0.278)
7	2	MS18582-223	SLOTTED SPRING PIN
8	7	MS24693-24B	SCREW, CSK 100°



D5155-045 WELDING DETAIL



D5155-045 CO-PILOT COLLECTIVE HEAD ASSY (EAGLE SINGLE)

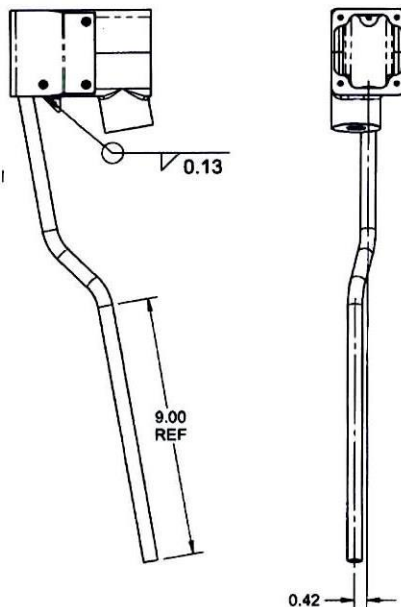
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- 1) MATERIAL: N/A
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER WELDING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 1.06 lbs
- 8) WELD PER DART QSI 004
- 9) INSTALL AFTER ANODIZING

DESIGN	VS	DART AEROSPACE LTD	
DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	JFS	D5155	SHEET 3 OF 14
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CO-PILOT COLLECTIVE HEAD	NTS
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12 JUL 02

ITEM	QTY	P/N	DESCRIPTION
1	X	D5155-047	CO-PILOT COLLECTIVE HEAD ASSEMBLY
2	1	D5054-1	CONDUIT
3	2	D5073-1	SNAP RING
4	1	D5155-7	CO-PILOT COLLECTIVE HEAD (205)
5	1	D5155-9	CO-PILOT COLLECTIVE HEAD (205)
6	1	D5156-9	BACK PLATE
7	11	90296A108	HELI-COIL INSERT (6-32 X 0.276)
8	2	MS16562-223	SLOTTED SPRING PIN
9	7	MS24693-24B	SCREW, CSK 100°
10	1	MS27841-3	BEARING

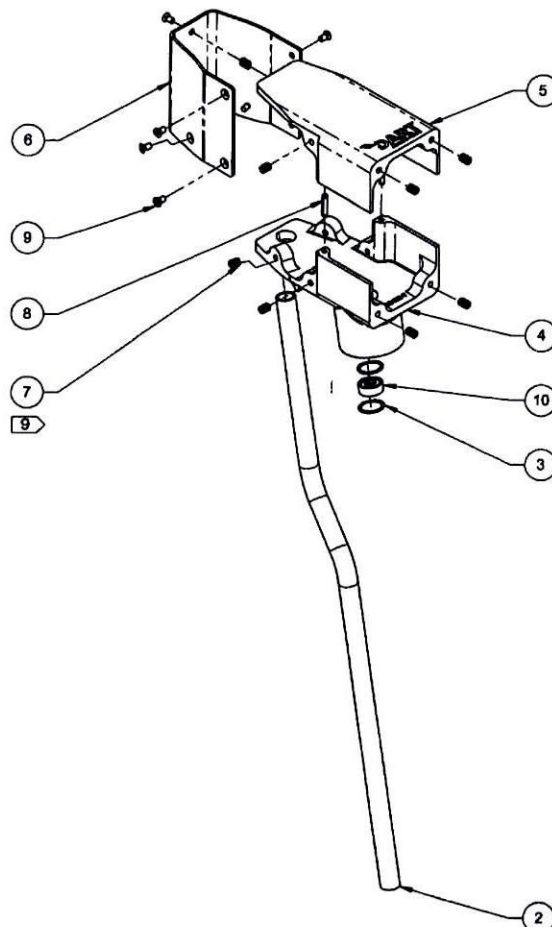


D5155-047 WELDING DETAIL

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER WELDING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 1.14 lbs
- 8) WELD PER DART QSI 004
- 9) INSTALL AFTER ANODIZING

**D5155-047 CO-PILOT COLLECTIVE HEAD ASSY
FOR 205 WITH 204-001-290-5 STICK AND THROTTLE ASSEMBLY INSTALLED**

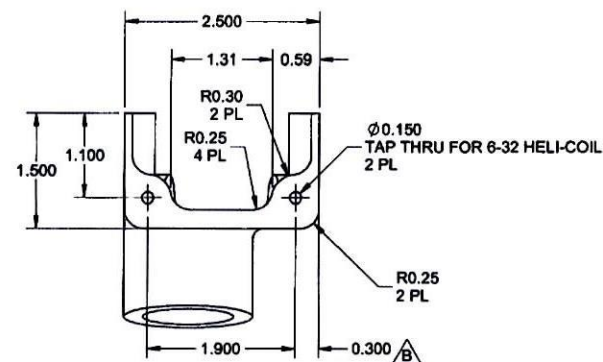
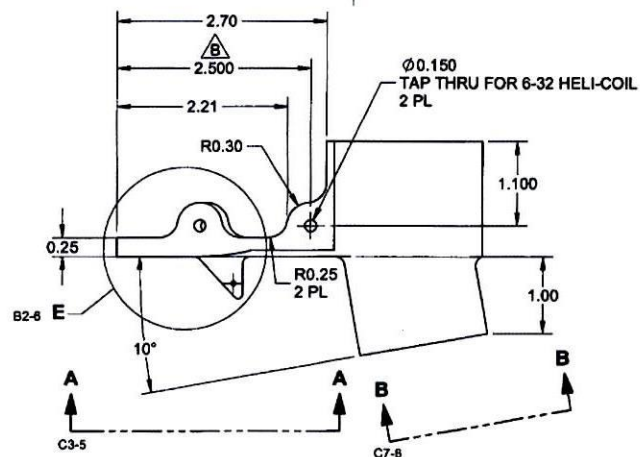
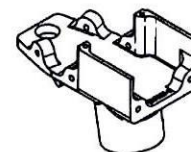
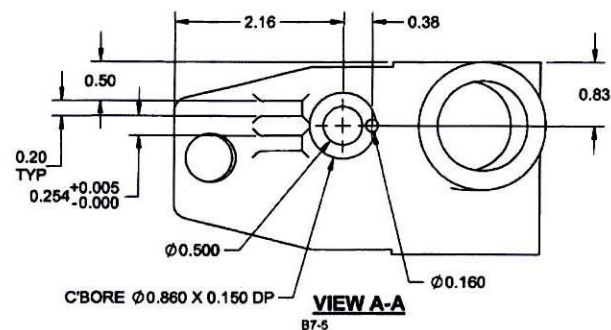


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15 JUL 02

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MFG. APPR.	JFS	D5155	SHEET 4 OF 14
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CO-PILOT COLLECTIVE HEAD	NTS
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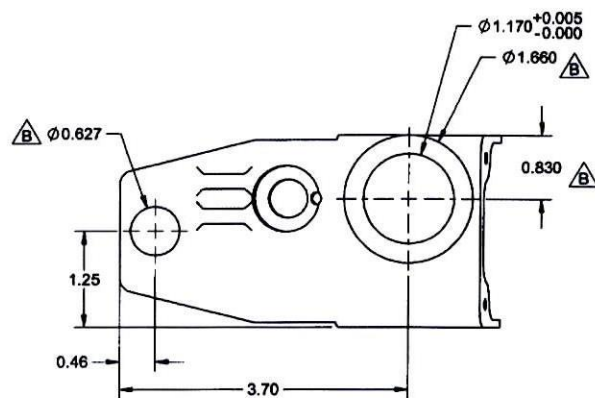


A.P. 2015 JUL 02

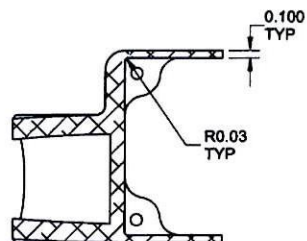
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3) TOLERANCES: PER DART Q3 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY PER Q3 044 6.3 IN THIS AREA TO MAX DEPTH
OF 0.010 WITH A MIN. TOOL RAD OF R0.010
7) WEIGHT: 0.47 lbs
8) UNDIMENSIONED FEATURES ARE DEFINED BY D5155-1.SLDPRT

D5155-1 CO-PILOT COLLECTIVE HEAD (205)

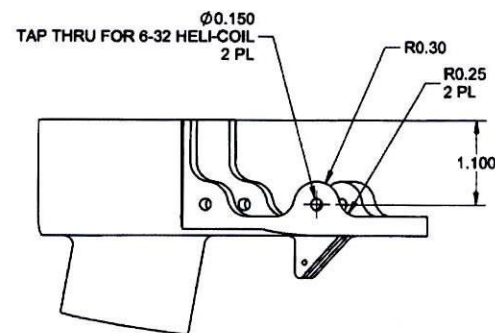
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DRAWN	VS		SHEET 5 OF 14
CHECKED	RF		SCALE
MFG. APPR.	JFS		NTS
APPROVED	HS		
DE APPR.	DS		
DATE	15.05.21		



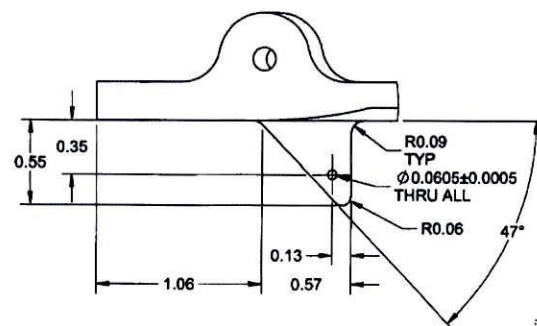
VIEW B-B
B5-5



SECTION D-D
D6-5



VIEW C-C
D7-5



DETAIL E
B7-5

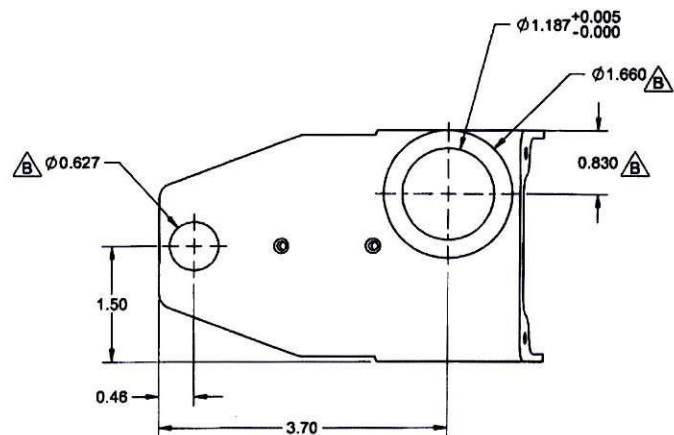
- NOTES:**
 1) MATERIAL: N/A
 2) FINISH: N/A
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: N/A
 7) WEIGHT: N/A

D5155-1 CO-PILOT COLLECTIVE HEAD (205)
DETAIL VIEWS

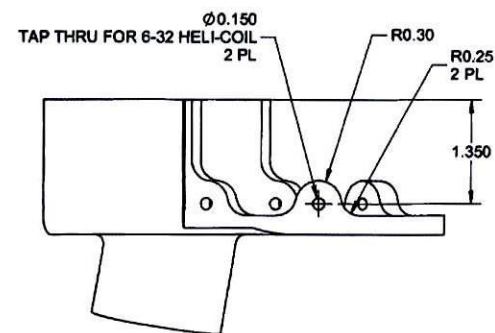
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APPROVED	DESIGN	VS	DART AEROSPACE LTD	
	DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
	CHECKED	RF	DRAWING NO.	REV. B
	MFG. APPR.	JFS	D5155	SHEET 6 OF 14
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	CO-PILOT COLLECTIVE HEAD	NTS
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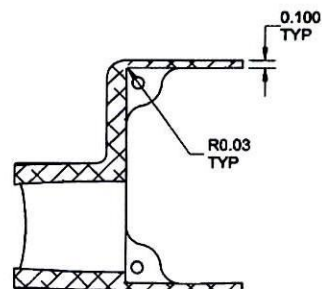
8 7 6 5 4 3 2 1



VIEW G-G
B6-7



VIEW H-H
D7-7



SECTION I-I
D6-7

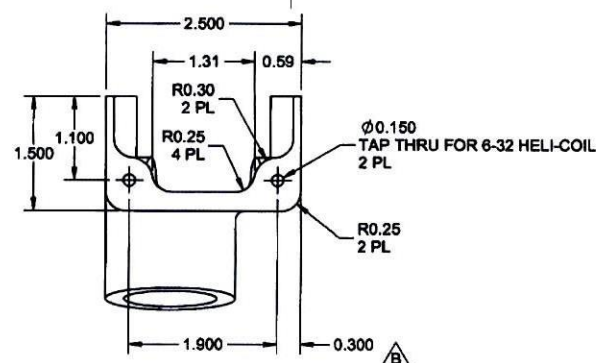
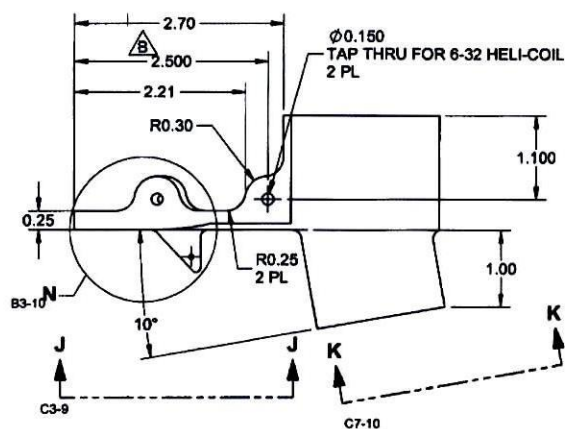
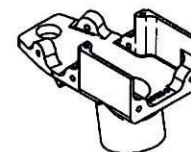
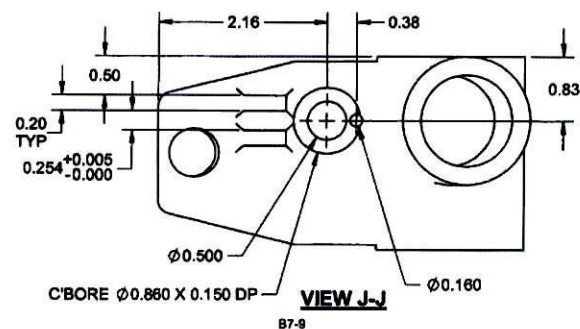
RELEASED
A.9.2015 JUL 02

- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: N/A

D5155-3 CO-PILOT COLLECTIVE HEAD (212)
DETAIL VIEWS

APPROVED	DESIGN	VS	DART AEROSPACE LTD	
	DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
	CHECKED	RF	DRAWING NO.	REV. B
	MFG. APPR.	JFS	D5155	SHEET 8 OF 14
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	CO-PILOT COLLECTIVE HEAD	NTS
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8 7 6 5 4 3 2 1



A.P. 2015 JUL 02

1) MATERIAL: 6061-T6/T651/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B

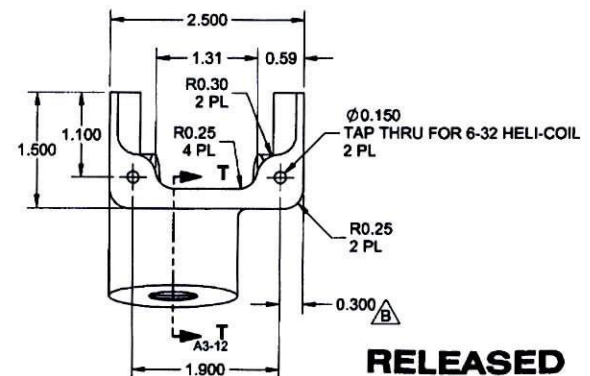
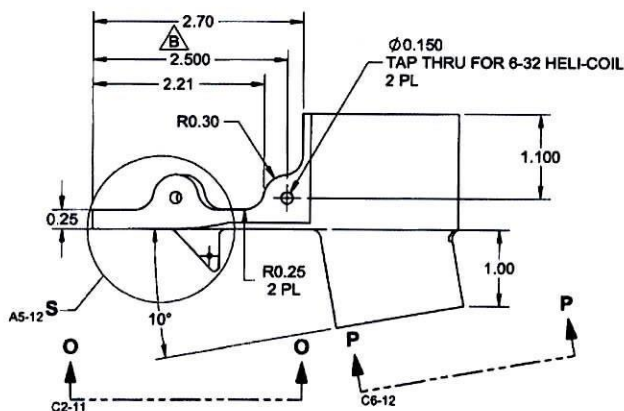
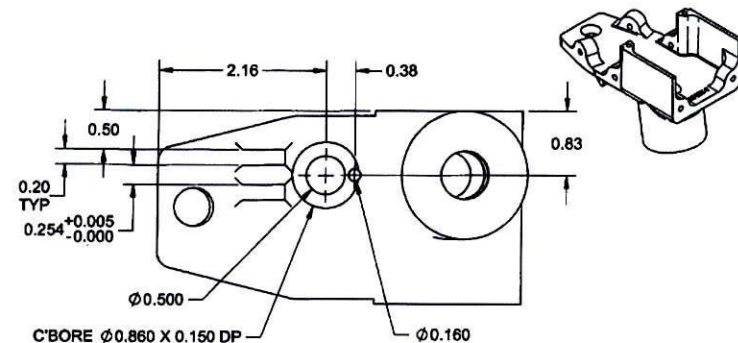
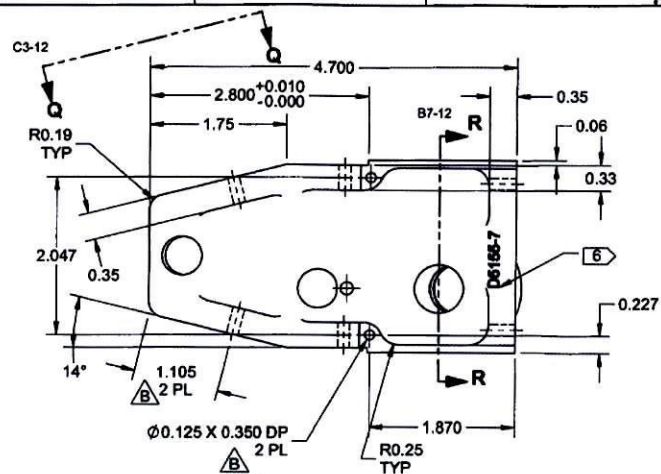
- 2) FINISH: NONE
3) TOLERANCES: PER DART Q01 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY PER Q01 044 6.3 IN THIS AREA TO MAX DEPTH
OF 0.010 WITH A MIN. TOOL RAD OF R0.010
7) WEIGHT: 0.45 lbs
8) UNDIMENSIONED FEATURES DEFINED BY D5155-5.SLDPRT

D5155-5 CO-PILOT COLLECTIVE HEAD (EAGLE SINGLE)

DESIGN	VS	 DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. B	
DRAWN	VS			
CHECKED	RF		DRAWING NO. D5155	SHEET 9 OF 14
MFG. APPR.	JFS		TITLE	SCALE
APPROVED	HS		CO-PILOT COLLECTIVE HEAD THIS DOCUMENT IS PROPERTY OF DART AEROSPACE LTD. IT IS NOT TO BE LOANED OR COPIED OR REPRODUCED IN ANY FORM WITHOUT PERMISSION.	NTS
DE APPR.	DS			
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REV APPROVED	DESIGN	VS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D5155 TITLE CO-PILOT COLLECTIVE HEAD COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPERTY OF DART AEROSPACE LTD. IT IS TO BE KEPT IN CONFIDENTIALITY AND NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD. IT IS NOT TO BE USED FOR ANY PURPOSE OR ON BEHALF OF ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.	REV. B SHEET 10 OF 14 SCALE NTS
	DRAWN	VS		
	CHECKED	RF		
	MFG. APPR.	JFS		
	APPROVED	HS		
	DE APPR.	DS		
	DATE	15.05.21		

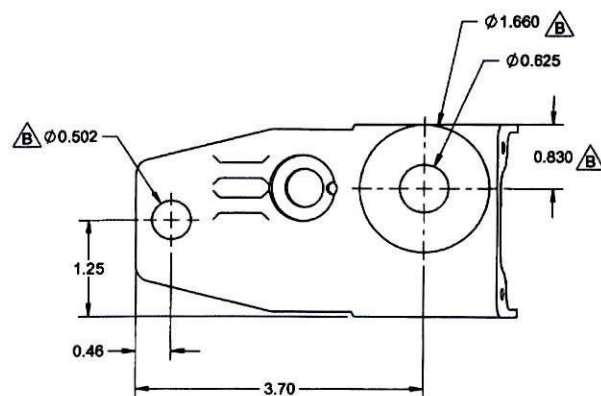


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A.P. 2015 JUL 02

- NOTES:**
- 1) MATERIAL: 6061-T6/T6511/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4180)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.3 IN THIS AREA TO MAX DEPTH
OF 0.010 WITH A MIN. TOOL RAD OF R0.010
 - 7) WEIGHT: 0.56 lbs
 - 8) UNDIMENSIONED FEATURES DEFINED BY D5155-7.SLDPR

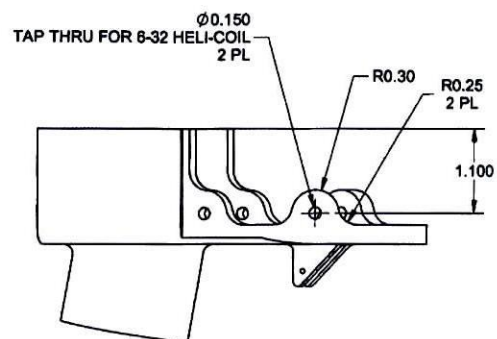
D5155-7 CO-PILOT COLLECTIVE HEAD (205)

APPROVED	DESIGN	VS	DART AEROSPACE LTD	
	DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
	CHECKED	RF	DRAWING NO.	REV. B
	MFG. APPR.	JFS	D5155	SHEET 11 OF 14
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	CO-PILOT COLLECTIVE HEAD	NTS
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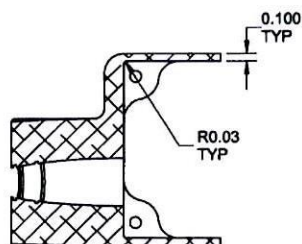
VIEW P-P

B5-11



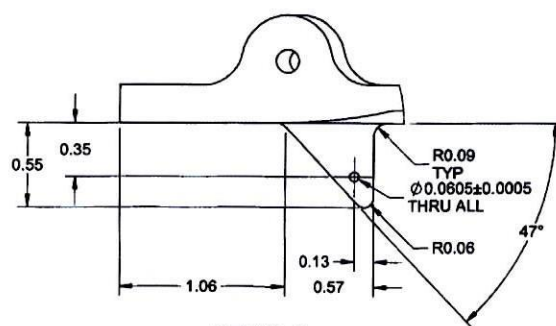
VIEW Q-Q

D7-11



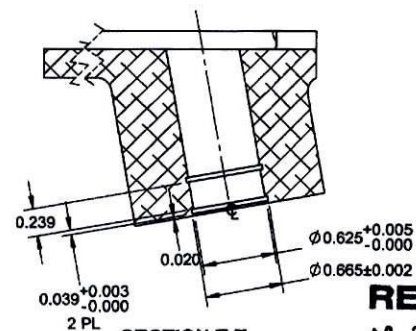
SECTION R-R

C6-11



DETAIL S

B6-11



SECTION T-T

B2-11

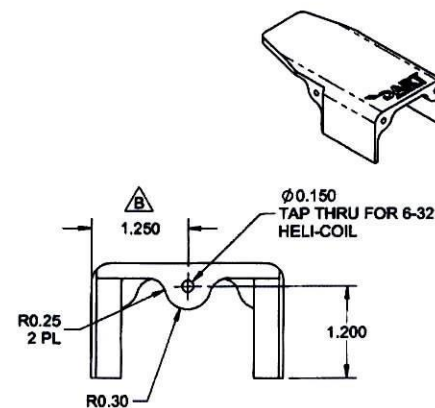
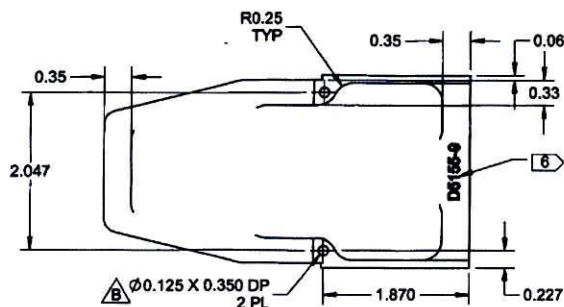
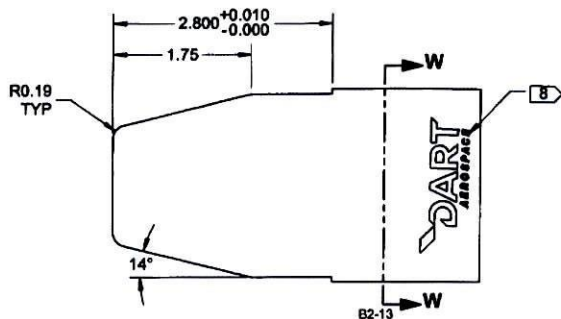
RELEASED

A.R. 2015 JUL 02

- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: N/A

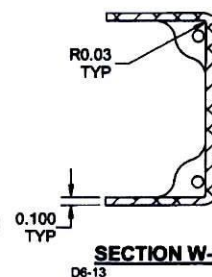
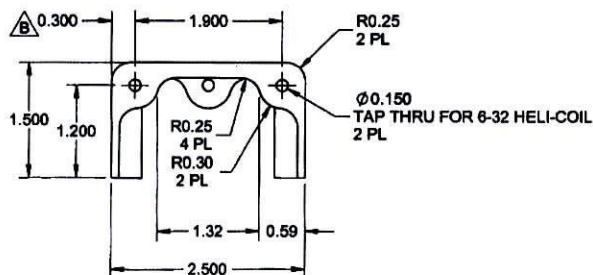
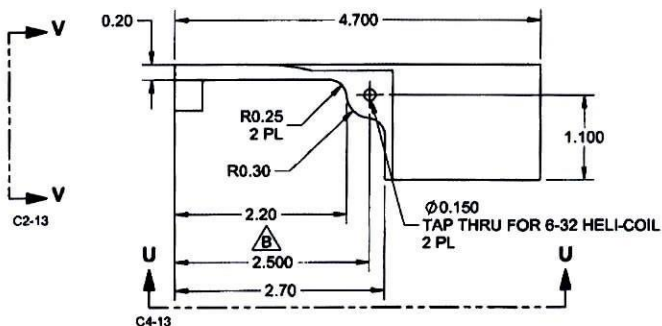
D5155-7 CO-PILOT COLLECTIVE HEAD (205)
DETAIL VIEWS

APPROVED	DESIGN	VS	DART AEROSPACE LTD	
	DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
	CHECKED	RF	DRAWING NO.	REV. B
	MFG. APPR.	JFS	D5155	SHEET 12 OF 14
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	CO-PILOT COLLECTIVE HEAD	NTS
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VIEW U-U
B7-13

VIEW V-V
B8-13



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4.8.2015 JUL 02

SECTION W-W
D6-13

NOTES:

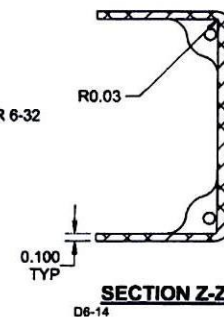
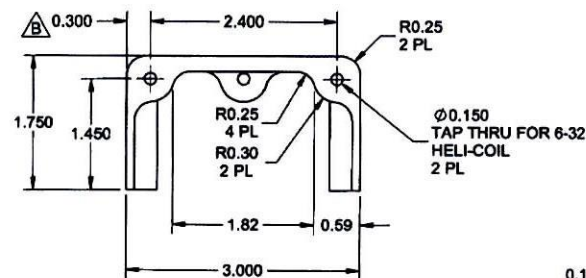
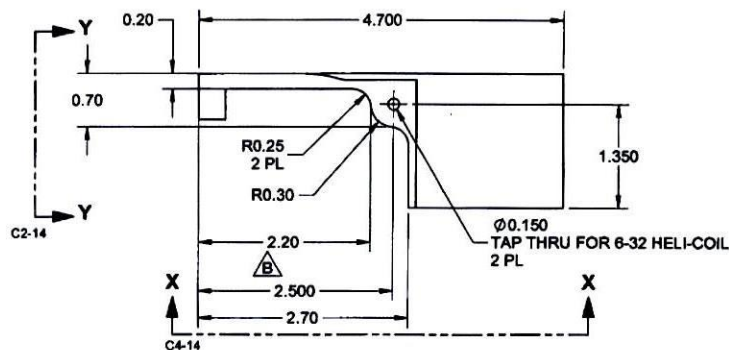
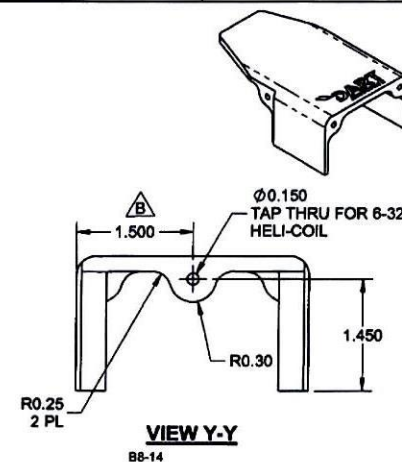
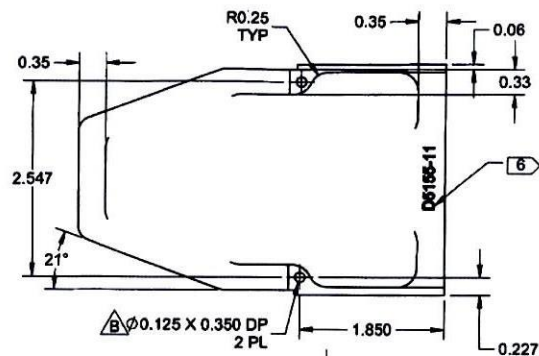
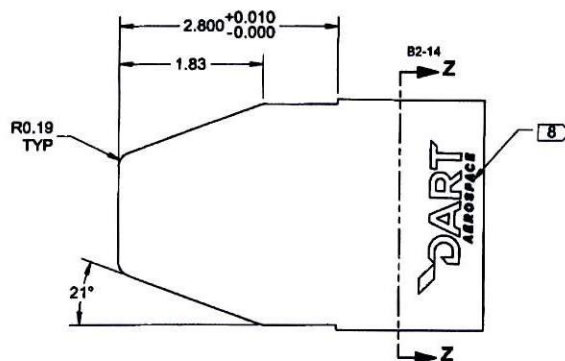
- 1) MATERIAL: 6061-T6/T651/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4180)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II
OR IIB CLASS 2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.3 IN THIS AREA TO MAX DEPTH
OF 0.010 WITH A MIN. TOOL RAD OF R0.010
- 7) WEIGHT: 0.31 lbs
- 8) ENGRAVE "DART" LOGO AS SHOWN 0.003-0.005 DP
- 9) UNDIMENSIONED FEATURES DEFINED BY D5155-9.SLDPRT

D5155-9 CO-PILOT COLLECTIVE HEAD (205)

APPROVED

DESIGN	VS
DRAWN	VS
CHECKED	RF
MFG. APPR.	JFS
APPROVED	HS
DE APPR.	DS
DATE	15.05.21

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D5155	REV. B
TITLE CO-PILOT COLLECTIVE HEAD	SHEET 13 OF 14
DATE 15.05.21	SCALE NTS
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2015 JUL 02

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4180)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II
OR IIB CLASS 2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 8.3 IN THIS AREA TO MAX DEPTH
OF 0.010 WITH A MIN. TOOL RAD OF R0.010
- 7) WEIGHT: 0.36 lbs
- 8) ENGRAVE "DART" LOGO AS SHOWN 0.003-0.005 DP
- 8) UNDIMENSIONED FEATURES DEFINED BY D5155-11.SLDPRT

D5155-11 CO-PILOT COLLECTIVE HEAD (212)

APPROVED

DESIGN	VS
DRAWN	VS
CHECKED	RF
MFG. APPR.	JFS
APPROVED	HS
DE APPR.	DS
DATE	15.05.21

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D5155** REV. B
SHEET 14 OF 14
TITLE **CO-PILOT COLLECTIVE HEAD** SCALE NTS

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Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038153

Supplier: ATG001-VC
A.T.G. Industries Inc
731 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO038153
PO Date: 10/26/17
Due Date:
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Phone:

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items												
Line Item	Job	Part	Rev	Description	Item Tax	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		D4842-1	-	Lower Cutter Deflector Hard Anodize color Black, Prime		Firmed	10/26/17	5 pcs	0 pcs	5 pcs	\$14.13333/pcs	\$70.67
2	165444	RB877528-4-3	-	Handle Issue P/O to ATG: ANODIZE COLOR BLACK, PER IAW MIL- A-8625F TYPE 2 CLASS 2		Firmed		1 pcs	0 pcs	1 pcs	\$13.44/pcs	\$13.44
3	165599	647.4110	-	Doubler Issue P/O to ATG : 1- Black Anodize as per Dwg 647.4100		Firmed	10/26/17	6 pcs	0 pcs	6 pcs	\$25.33333/pcs	\$152.00
4	165845	D5155-043	-	Co-Pilot Collective Head Assembly (212/412)		Firmed	10/26/17	2 pcs	0 pcs	2 pcs	\$13.44433/pcs	\$26.89
5	165846	D5155-045	-	Co-Pilot Collective Head Assembly (Eagle Single) Issue P/O to ATG: Black Anodize as per Dwg D5155 C OF C REQUIRED		Firmed	10/26/17	1 pcs	0 pcs	1 pcs	\$13.4433/pcs	\$13.44
6	165431	RBEM533V5000101-3	-	Handle -Issue P/O to ATG: -ANODIZE COLOR BLACK, PER IAW MIL- A-8625F TYPE 2 CLASS 2 - Certificate of Conformity is required		Firmed	10/26/17	1 pcs	0 pcs	1 pcs	\$13.4433/pcs	\$13.44
7	165025	RBEM533V5000101-5	-	Plug -Issue P/O to ATG: -ANODIZE COLOR		Firmed	10/26/17	4 pcs	0 pcs	4 pcs	\$13.4433/pcs	\$53.77



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 913985

Date: 11-Oct-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		OUR TRUCK	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
2 ea	Part: D5155-043 Co-Pilot Collective Head Assy Black Anodize per MIL-A-8625F, Type II, Class 2, .0004-.0010" (.4 - 1 mils). Job: 21728	Rev: B PO: PO37769 Line: 11	
1 ea	Part: D5155-045 Co-Pilot Collective Head Assy Black Anodize per MIL-A-8625F, Type II, Class 2, .0004-.0010" (.4 - 1 mils). Job: 21729	Rev: B PO: PO37769 Line: 12	DAS 38 SP7-10-30
4 ea	Part: RBEM533V5000101-5 Plug Black Anodize per MIL-A-8625F, Type II, Class 2, .0004-.0010" (.4 - 1 mils). Job: 21719	Rev: 1 PO: PO37769 Line: 2	
1 ea	Part: RBEM553V5000101-3 Handle Black Anodize per MIL-A-8625F, Type II, Class 2, .0004-.0010" (.4 - 1 mils). Job: 21722	Rev: 1 PO: PO37769 Line: 5	
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: 11/10/2017 Certified Signature: [Signature] Receiver Signature: [Signature] SP7-10-11 A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of Made in Canada.			